Public Comments received via mail or email on the Introduction of the Asian Oyster EIS

The comments received from the public were categorized based on their relation to the following*:*

I. The Environmental Impact Statement Process

II. The Native Oyster *(C. virginica)*

III. The Non-Native Oyster (*C. ariakensis)*
- A. Biology of Non-Native Oyster
- B. Diseases
- C. Additional Comments

IV. The Non-Native Oyster (*C. ariakensis)* and the Native Oyster *(C. virginica)*

V. The Chesapeake Bay Environment

VI. The Goals/Outcome of the EIS

VII. Economics and the Oyster Industry
- A. Harvest Moratoriums/Restrictions
- B. Aquaculture
- C. Economic Impacts on the Oyster Industry
- D. Additional Comments

VIII. Additional Comments Regarding the Introduction of the Non-Native (*C. ariakensis)*

IX. Potential of Non-Native (*C. ariakensis*) to Spread Outside of Chesapeake Bay

X. For and Against Introduction of the Non-Native Oyster

**Similar comments were combined, but are noted.*

I. The Environmental Impact Statement Process

1) One year time frame is not enough time. Will real science be done or is the EIS just to appease the critics?

2) Is the National Academy of Science's "potential impact study" to be incorporated into the Corps EIS?

3) Prepare EIS is a systematic fashion with the intent of producing a comprehensive study. Do not abbreviate or accelerate schedule currently proposed.

II. The Native Oyster *(C. virginica)*

1) Expand native oyster restoration (Alternative #2). (8 comments)

2) What is the status of the oysters in the oyster preserves? Maybe they should be expanded.

3) Clone the native oysters that appear to be resistant from diseases, and use those cloned oysters to repopulate the Bay.

III. The Non-Native Oyster *(C. ariakensis)*

A. Biology of the Non-Native Oyster

1) Is it wise just to use Oregon oysters since there could be a limited gene pool in such a small population? Suggest bringing over Asian stocks and mixing with the Oregon stocks. (2 comments)
2) C. ariakensis grows so large that there is a chance it may consume zooplankton. Such a disturbance to the plankton food chain could cause phytoplankton blooms in the Bay and therefore decrease D.O. levels in the deeper waters.
3) Will ariakensis out-compete other bio-filters, including the native C. virginicas, for food, and what consequences will this have on other species. (Remember the zebra mussel). (2 comments)
4) Was Stan Allen using the Oregon strain for the VSC trials, as stated in one of the slides?
5) Will the *C. ariakensis* build reefs that would be helpful for habitat restoration?
6)Will *C. ariakensis* destroy or badly alter valuable habitat for other species and oysters?
7) Will *C. ariakensis* spawn and set in the wild and if so, in what salinity and temperature ranges and other environmental conditions?
8) Will native predators effect *C. ariakensis* and to what extent?
9) Will *C. ariakensis* set on aquaculture clam nets and if so, what effect will they have on that industry?
10) Has an anticipated larval flow map been created?

11) How well does *C. ariakensis* survive in various weather conditions found within the Chesapeake Bay area?
12) The concept that using triploid *C. ariakensis* will avoid all natural reproduction is entirely supported
13) What will be the effect of the non-native oyster introduction on the hand clam industry.

B. Diseases
1) What do we know of Bonemia? Will it affect the *C. ariakensis*? (2 comments)

2) Will *C. ariakensis* harbor shellfish diseases that will not affect them but will either stunt or kill other species?

C. Additional Comments
1) What independent site visits and evaluation will be done? (bio-security inspections)

IV. The Non-Native and the Native Oyster

1) I believe that we need to find a way to build oyster stocks so that filtration of the Bay is at a positive level.

2) Has a mapping process been done and evaluated as to where *C. virginica* vs. *C. ariakensis* would survive?

3) If the fossil shellfrom Lagenfelder dredging and shell from shucking houses that are currently being used for oyster restoration are not available, what affect will that have on restoration efforts? What is another acceptable source of substrate?

V. The Chesapeake Bay Environment

1) When will the governments adopt strict pollution controls, restricting nitrogen runoff from farms and wastewater facilities?

2) Clean the Bay and improve water quality. (4) comments)

VI. The Goals/Outcome of the EIS
1) Alternative #1 is a waste of time and money
2)We encourage you to fully explore Alternatives #2. (8 comments)
3) Support Alternatives 3. I would think that introducing a non-native species would be foolish. (4 comments)
4) Would choose Alternative # 4 (5 comments)
5) Support Alternative # 5.

6) Support Alternative # 6. Believe that having *C. virginica* growing next to *C. ariakensis* would be very beneficial to the *C. virginica* 's immune system and allow it to withstand disease.
7) I believe that Alternative 7 would be the most advisable course.
8) Alternative #3 will not help since problem is disease and not overharvesting.
9) Alternative #5 should be last resort.
10) Rather than soliciting research proposals from the scientific community, a high-level task force should be established to formulate a coherent, integrated strategy for the revitalization if the native oyster populations in the Chesapeake Bay. Once the strategy is developed, a powerful administrative structure should be created to oversee its timely and efficient implementation. Contracts should either be awarded to individual scientists and institutions or new facilities should be created and staff hired. There should be clear goals and strict accountability of them. All findings/products of the publicly funded effort should remain in the public domain.
11) Utilize information on *C. ariakensis* that may be available from other geographic areas. Don't reinvent the wheel.
12) Suggest using fast-growing strains of *C. virginica*, suspension bag nurseryculture, and bottom culture, as in Maine to obtain an oyster worth $0.65 in just 18-months.
13) Develop a resistant hybrid of C. ariakensis and C. virginica, like what the American Chestnut Foundation did with the native American Chesnut and the disease resistant Chinese Chestnut.

VII. Economics and the Oyster Industry

A. Harvest Moratoriums/Restrictions

1) Close the oyster season for at least 20-100 years.
2) Want a moratorium on harvesting of all oyster species from the Bay until a full recovery is at hand. (5 comments)
3) When will the governments stop catering to the watermen and outlaw the harvesting of oysters? (2 comments)
4) Why is it that we have never considered a moratorium on oyster harvest? It's worked well for other stressed species, and the oyster harvest should have been shut down years ago. Face the reality—the days of commercial oystering on the bay are numbered for the time-being, and this quick fix option is a bad, bad move.
5) Moratorium of oysters of any species is the necessary first step. Within the Chesapeake, the market value for this season's oyster harvest will almost certainly be less than $1 million. The oyster fishery is no longer commercially viable. A moratorium could be enacted without significant economic impact.
6) Moratorium would be necessary if the Non-Native oysters are released.
7) Moratorium option expanded to include a tighter management of the industry vs. a closure of it (2 comments)
8) Moratorium is irrelevant because oyster populations so small.
9) Introduce a temporary harvest moratorium on natives *C. virginica*.
10) Moratorium for 5 years. It worked with the rockfish restoration and also Canadian geese. After 5 year moratorium, we will know if overfishing is the culprit

11) A moratorium on oyster harvest would lead towards the reestablishment of a viable Native oyster fishery – such a measure would allow the mechanisms of natural selection to proceed unhindered and uninterrupted, thereby advancing the potential for the species to develop resistance or immunity to the disease on its own accord. The continued harvesting of market sized Natives is counterproductive.

B. Aquaculture

1) Aquaculture is and should remain a private industry. If oystermen wanted to be participating in aquaculture, they would be. Would like to see continued research using triploid Asian oysters.

2) Aquaculture of the native oyster should be subsidized and continuous efforts made to grow natives.

3) Do these oyster grow too fast for farmers to maintain them and harvest them at desirable sizes?

4) Increase Chesapeake Bay aquacultured shellfish production (3 comments)

5) Expand aquaculture of disease resistant native oysters, which will provide best immediate action for eventual repopulation of the native species, as well as immediate economic and ecological benefits

C. Economic Impacts on the Oyster Industry

1) Are we going to risk the native flora and fauna of the Bay in order to save the watermen. There are millions and millions of people living in the Chesapeake Bay watershed. How many waterman are there? What is the economic value of 15,000 bushels?
2) Oyster harvesters should be bought-out and forcibly retired or retrained, and the oyster industry closed until populations recover (2 comments)
3) If the shelf life of *C. ariakensis* is 3-7 days, is it too short of a time span to sell as a halfprice half shell oysters?
4) What would the economic impact be on *C. virginica* half shell production if *C. ariakensis* "took hold" and created an economic and physical environment only suitable for *C. ariakensis*?
5) Has a cost analysis been done and has it included national demand for shucked oysters and Gulf oyster prices?
6) Is it true that native *C. virginica* oysters are now being found in areas of Maryland, and Virginia, and Delware, which were thought to be void of growth? And if so, are they being harvested for sale on both half shell and a shucking market?
7) Have consumer tests with the *C. ariakensis* been done by credible marketing and food scientists? If so, what are the results?
8) By releasing a possibly poor shelf life oyster and poor tasting, hard to manage oyster, will you be able to justify the economic disruption this would create to current and future shellfish farmers (both clam and oyster)?

9) Should the Asian Oyster (*C. ariakensis)* oyster spread into our bays (Rhode Island), as I am confident it will if this planting is allowed to go forward, where do we as a business people turn for help? Will the government be ready to assist us if our stocks crash as a result of over-competition or our market fails because of the shift in consumer preference?
10) If oystermen want money, give them what the average amount made in one season is.
11) Train oystermen with sustainable harvesting methods.
12) Increase price of fishing licenses to help support out of work oystermen.
13) Government supported training of oystermen in aquaculture. (2 comments)

D. Additional Comments

1) What will be the source of seed? Will "patent rights" and fees be imposed as is currently the case in the "sterile" seed being used by the Virginia Seafood Council current field grow out trials?

VIII. Additional Comments

1) I believe that you should follow the advice of the U.S. Fish and Wildlife Service and be very careful about any experiments with non-native oysters that could create more problems than they solve.

2) As you debate oyster recovery, please don't forget the filter fish like the Menhaden.

3) Concerned about coordination with the coastal states.

4) A review of relevant literature shows that almost all intentional species introductions in the past have had disastrous consequences. Introductions need to be viewed in the broader context of pathogenic and parasitic organisms which will be introduced with these C. ariakensis oysters.

5) Only true test is to place the diploid Asian oyster in close proximity to the native oysters on a well populated concrete reef in the lower Rappahannock and observe mother nature at work.

6) Let the public try the Asian oyster to see if they taste the same as the natives

IX. Potential of Non-Native *(C. ariakensis)* to Spread Outside of Chesapeake Bay

1). Who will take responsibility for any disease outbreak in the northeast if they spread to our waters (like the *O. edulis* oyster and MSX and Dermo)?

2) What is the anticipated geographical range of the C. ariakensis along the eastern and southern seaboard?

3) What is to stop it from spreading and why? What evidence do you have?

4) The concept that the C. ariakensis will not move outside of the Chesapeake Bay, is unsupported.

5) Where is the assurance that the animal will not move northward and out compete out native stocks?

6) What right does a state have to introduce a non-native species into waters that are now so closely linked? Is there a plan to account for every planted animal?

X. For and Against Introduction of the Non-Native Oyster

1) We respectfully request that the further introduction of C. ariakensis be halted until all risks be assessed and plans established for proper containment.

2) I do not support the introduction of the Asian Oyster into the Bay. No matter how much study goes into this, I don't believe we can be %100 sure that we will not introduce another problem non-native species.

3) Do not release (3 comments)

4) Support the introduction of *C. ariakensis* on a timely basis.

5) Introduce the Asian oysters quickly and stop spending taxpayers money on never ending studies.